

BEFORE THE

Federal Communications Commission

WASHINGTON, D.C. 20554

In the Matter of

Amendment of Parts 5, 21, 22, 23, 25, 73, 74,
78, 80, 87, 90, 94, 95 and 97 of the Rules to
Establish a Radio Astronomy Coordination
Zone in Puerto Rico

RM-8165

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To: The Chief, Policy and Rules Division

**MOTION FOR LEAVE TO FILE LATE SUPPLEMENTARY REPLY
COMMENTS**

Cornell University ("Cornell"), by its attorney, hereby requests that it be granted leave to file a supplement to the reply comments with respect to the Comments of the American Radio Relay League, Incorporated ("ARRL"). In support whereof, the following is shown:

1. Section 1.415(d) of the Commission's Rules prohibits the filing of additional comments beyond the filing deadline "unless specifically requested or authorized by the Commission. Cornell submits that it is appropriate for the Commission to authorize the filing of these late-filed Supplementary Reply Comments because of several informal discussion which have occurred between Cornell representatives and officials of the Puerto Rico Amateur Radio Club representing amateurs in Puerto Rico and the Virgin Islands ("PRVI"). These discussions have led Cornell to conclude that a modification of its position with respect to coordination between Cornell's Arecibo Observatory and Amateur Services operating on the island is appropriate. The modification as outlined in the attached Supplementary Reply Comments will reduce the burden on both Amateur Services and the staff of Arecibo Observatory and yet not affect the coordination requisite for protecting the Observatory from harmful interference.

2. Any consideration by the Commission of the proposal by Cornell should be based upon the development of a full and complete record, including the pledges of cooperation by Amateur Services to provide protection to the radio astronomy activities of the Observatory. To ensure that the Commission has a complete record to aid its

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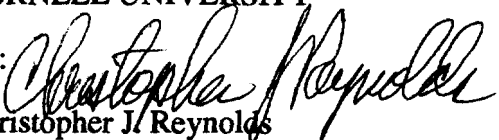
determination of important public interest objectives, the Commission should accept Cornell's late-filed Supplementary Reply Comments. Consideration of the Supplementary Reply Comments may result in implementation of a reduced burden on the coordination scheme advanced by Cornell and, thus, would not work a hardship on the Commission's staff or upon the parties previously filing comments in this proceeding.

WHEREFORE, the foregoing considered, it is respectfully requested that the Commission authorize the filing of Cornell's Supplementary Reply Comments despite the fact that they are filed after the deadline.

Respectfully submitted,

CORNELL UNIVERSITY

By:


Christopher J. Reynolds
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Its Attorney

October 14, 1993

BEFORE THE
Federal Communications Commission
WASHINGTON, D.C. 20554

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Amendment of Parts 5, 21, 22, 23, 25, 73, 74,)	RM-8165
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To: The Chief, Policy and Rules Division

SUPPLEMENTARY REPLY COMMENTS

Cornell University ("Cornell"), by its attorney, hereby supplements its reply comments filed on March 5, 1993 in response to the Comments of the American Radio Relay League, Incorporated ("ARRL").

1. This proceeding was initiated by Cornell in order to implement a system of coordination¹ between communications spectrum users in Puerto Rico and the Arecibo Observatory, a radio astronomy facility which conducts research on a broad range of spectrum. Because of the extreme congestion of communications users in Puerto Rico, Cornell is seeking the institution of rules similar to those employed for protection of the National Radio Astronomy Observatory in Green Bank, West Virginia and of the Department of Commerce facilities located on Table Mountain near Boulder, Colorado. Among other proposals, Cornell has urged the Commission to amend Part 97 of the Commission's Rules to provide that applicants for amateur radio repeaters or automatic beacon stations must give the Arecibo Observatory advance written notification and to provide that the Observatory be given 20 days from the date of such notification to file an objection with the Commission.

¹ In its Reply Comments filed March 5, 1993, Cornell attempted to place special emphasis on the coordination aspects of the rule changes proposed in its Petition for Rulemaking by suggesting that the geographical designation be changed to the Puerto Rico Coordination Zone. Cornell Reply at ¶ 5. The caption has been revised to reflect this change as well.

2. The ARRL responded in Comments that although it supported the mission of the Observatory, it was unlikely that amateur repeaters and beacon stations would cause harmful interference to the Observatory:

Amateur radio repeater stations principally utilize omnidirectional antennas, and operate at transmitter powers typically between 25 and 150 watts. They are installed and modified routinely by radio amateurs, and no FCC approval is necessary before a repeater is installed or modified now. Beacon stations, used by radio amateurs for propagation research and frequency selection, operate using omnidirectional antennas and power levels of between 5 and 10 watts typically. Amateur repeaters and beacons operate from known fixed locations, and incorporate automatic transmitter identification circuitry. Rules regarding spurious emissions from amateur transmitters (See §§ 97.307(d) and (e) of the Commission's rules) are reasonably strict. A typical amateur VHF repeater is required to limit the mean power of spurious emissions to at least 60 dB below the mean power of the fundamental frequency. Most modern commercial repeater installations limit spurious emissions to a significantly greater extent than required. This, coupled with the low power levels at the fundamental frequency, the use of cavities in modern repeater installations, and the use of antennas which are not particularly broadbanded, greatly limit any potential interference from repeater or beacon stations. ARRL Comments at ¶ 4 (footnote omitted).

In its Reply to ARRL, Cornell stressed that although it considered amateurs as allies, it did not believe that inclusion of Amateur Services in the new protection procedure would significantly jeopardize amateur operations. Cornell Reply at ¶ 15.

2. Based upon several discussions between Cornell representatives and officials of the Puerto Rico Amateur Radio Club, which represents amateurs in Puerto Rico and the Virgin Islands ("PRVI"), Cornell is of the view that its proposal with respect to Amateur Services should be modified in several respects. Because Cornell now acknowledges that there is no present requirement under the Commission's rules that applications for new and modified Amateur facilities be filed with the Commission, and because PRVI has represented that it voluntarily provides the Commission with up-to-date listings of frequency use, Cornell's suggestion to require Amateur repeater and radio beacon operators to notify Cornell in advance of implementing or modifying operations may constitute an unnecessary burden for amateur operators at locations far removed from Arecibo Observatory.

3. The relations between the Observatory and PRVI members has always been very good and past conflicts have been resolved amicably. The PRVI has offered the Observatory access to system files on relay and beacon systems. Cornell is willing to rely on the goodwill of the PRVI for frequency coordination. For these reasons, Cornell proposes that its request be modified to require only that new repeater and beacon stations within a distance of 10 miles of the Observatory be coordinated directly with the

Observatory staff. It is Cornell's understanding that officials of the Puerto Rico chapter of the PRVI have agreed in principle to such a compromise.

4. The changes to Part 97 of the Commission's rules, as newly modified herein, will serve to draw attention to the necessity for coordination and consultation between the Amateur Services and the Observatory within the territory of Puerto Rico. In addition to reduction of the work load on the Observatory in analyzing relatively low power amateur repeater and beacon stations, most of which are operated in emergencies, the modification reflects the spirit of cooperation and coordination, past and future commitments, of the Puerto Rico chapter of the ARRL.²

5. Cornell proposes to further modify the proposed processing time scale within which Cornell would be permitted to comment or object to an application. Instead of 20 days as originally proposed, Cornell now proposes a 30-day comment period, which is consistent with the standard 30-day comment period provided for input from the public regarding applications filed with the Commission.³

6. In light of the foregoing, Cornell would modify the changes proposed to Part 97, as contained in Attachment A to its Petition for Rulemaking, as follows:

13. Part 97 of Title 47 of the Code of Federal Regulations is amended as follows:

(i) Section 97.3(a)(30) is amended to read as follows:

(30) Puerto Rico Coordination Zone. The islands of Puerto Rico, Desecheo, Mona, Vieques and Culebra.

(ii) Subsections (30) to (44) of Section 97.3(a) are renumbered Subsections (31) to (45).

(iii) Section 97.203(e) is amended to read as follows:

(e) Before establishing an automatically controlled beacon in the National Radio Quiet Zone or within a 10-mile radius of the Arecibo Observatory (centered on NAD27 Geographical Coordinates North Latitude 18° 20' 45", West Longitude 66° 45' 12") in the Puerto Rico Coordination Zone, or before changing the transmitting frequency, transmitter power, antenna height or directivity, the station licensee must give written notification thereof to the Interference Office, National Radio Astronomy Observatory, P.O. Box 2, Green Bank, WV 24944 or

² The ARRL has expressed a commitment to work with the Observatory in an effort to resolve interference issues. ARRL Comments at ¶ 7.

³ In its Response to Late-filed Comments, Cornell addressed a concern raised by Asociacion de Radiodefusores de Puerto Rico by expressing its willingness to change the 20-day comment period to 30 days. Cornell Response at ¶ 13. Cornell is now formally modifying its proposal to institute the 30-day comment period.

to the Interference Office, Arecibo Observatory, P.O. Box 995, Arecibo, PR 00613.

(1) The notification must include the geographical coordinates of the antenna, antenna ground elevation above mean sea level (AMSL), antenna center of radiation above ground level (AGL), antenna directivity, proposed frequency, type of emission, and transmitter power.

(2) If an objection to the proposed operation is received by the FCC from the National Radio Astronomy Observatory at Green Bank, Pocahontas County, WV, for itself or on behalf of the Naval Research Laboratory at Sugar Grove, Pendleton County, WV, or from the Arecibo Observatory, Arecibo, PR, within 30 days from the date of notification, the FCC will consider all aspects of the problem and take whatever action is deemed appropriate.

(iv) Section 97.205(f) is amended to read as follows:

(f) Before establishing a repeater in the National Radio Quiet Zone or within a 10-mile radius of the Arecibo Observatory (centered on NAD27 Geographical Coordinates North Latitude 18° 20' 45", West Longitude 66° 45' 12") in the Puerto Rico Coordination Zone, or before changing the transmitting frequency, transmitter power, antenna height or directivity, or the location of an existing repeater, the station licensee must give written notification thereof to the Interference Office, National Radio Astronomy Observatory, P.O. Box 2, Green Bank, WV 24944 or to the Interference Office, Arecibo Observatory, P.O. Box 995, Arecibo, PR 00613.

(1) The notification must include the geographical coordinates of the station antenna, antenna ground elevation above mean sea level (AMSL), antenna center of radiation above ground level (AGL), antenna directivity, proposed frequency, type of emission, and transmitter power.


(2) If an objection to the proposed operation is received by the FCC from the National Radio Astronomy Observatory at Green Bank, Pocahontas County, WV, for itself or on behalf of the Naval Research Laboratory at Sugar Grove, Pendleton County, WV, or from the Arecibo Observatory, Arecibo, PR, within 30 days from the date of notification, the FCC will consider all aspects of the problem and take whatever action is deemed appropriate.

WHEREFORE, the foregoing considered, it is respectfully requested that the Commission adopt the rule changes proposed by Cornell as contained in its Petition for Rulemaking and as modified herein.

Respectfully requested,

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By:



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October 14, 1993

CERTIFICATE OF SERVICE

I, Mima S. Shanor, a secretary in the law offices of Christopher J. Reynolds, hereby certify on this 14th day of October, 1993, that copies of the foregoing "Motion for Leave to File Late Supplementary Reply Comments" and "Supplementary Reply Comments" were deposited with the United States Postal Service, postage prepaid, addressed to the following:

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